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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/580,343	05/25/2000	Brigitte Benage	D-6387	8093

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EXAMINER	
THEXTON, MATTHEW	
ART UNIT	PAPER NUMBER

DATE MAILED: 03/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/580,343

Applicant(s)

BENAGE ET AL.

Examiner

Matthew A. Thexton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-121 is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 6, 9, 15-17, 30-46, 48, 49, 52, 58-60, 73 and 75-89 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Continuation of Disposition of Claims: Claims withdrawn from consideration are 4,7,8,10-14,18-29,47,50,51,53-57,61-72,74 and 90-121.

DETAILED ACTION

Election/Restrictions

1. Applicant has elected in papers number 6, received 30 December 2002 and number 8, received 24 February 2003 claims 1-79 and specie listed fourth in claim 15 for component A (abbreviated DNBP) and specie listed eighth in claim 75 for component B (abbreviated 4-oxo-TEMPO). Although the election was indicated as with traverse, no arguments have been presented as to why the restriction requirement is considered improper. Accordingly, the election is treated as though it were made without traverse.

Claims 1-3, 5, 6, 9, 15-17, 30-46, 48, 49, 52, 58-60, 73, 75-89 read on the elected invention and species and are pending in the this office action.

Claims 90-121 are withdrawn as directed to a nonelected invention.

Claims 4, 7, 8, 10-14, 18-29, 47, 50, 51, 53-57, 61-72, and 74 are withdrawn as directed to nonelected species.

Specification

2. The attempt to incorporate subject matter into this application by reference to foreign origin patents and to non-patent literature is improper. Applicant may amend the disclosure to include the material incorporated by reference if it is essential. The amendment must be accompanied by an affidavit or declaration executed by the applicant, or a practitioner representing the applicant, stating that the amendatory material consists of the same material incorporated by reference in the referencing application. In re Hawkins, 486 F.2d 569, 179 USPQ 157 (CCPA 1973); In re Hawkins,

486 F.2d 579, 179 USPQ 163 (CCPA 1973); In re Hawkins, 486 F.2d 577, 179 USPQ 167 (CCPA 1973).

Applicant must modify the statement at page 19, line 9 to conform to standard US practice. For example, applicant may modify the improper statement to refer to only the US patents.

Information Disclosure Statement

3. The information disclosure statement filed 25 May 2000 in part fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because concise explanations of the non-English documents (which were submitted without a translation) have not been submitted with the IDS. It has been placed in the application file, but the information referred to therein has not been considered as to the merits in part. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

The non-English language references on the IDS which have not been submitted with a translation or a concise explanation of relevance have been crossed-out on the IDS.

See MPEP § 609 ¶ III, A(3) for requirements for relying upon the disclosure to satisfy the requirement for a concise explanation of relevance of non-English documents. Note that an English language abstract "may" satisfy the requirement for a

concise statement of relevance. Normally, this examiner does not consider a translation of the title to satisfy the requirement because the intent of the requirement is to state the relevancy of the content of the reference as to the presented claims (as understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information at the time the information is submitted to the Office), not merely to list references.

US 1127127 has been crossed-out because it is directed to unrelated subject matter.

Reference Shigemoto, et al ("AT") has been crossed-out because the submitted copy is illegible in that pages 348 and 350 have been partially cut off and cannot be understood.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5, 6, 9, 15, 30-46, 48, 49, 52, 58, 73, 75-89 are rejected under 35 U.S.C. 103(a) as being obvious over Benage, et al. (US 6403850).

The applied reference has a common inventor and assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed

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but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Benage discloses and claims methods of inhibiting polymerization of ethylenically unsaturated monomers by adding thereto components A, B, and optionally C. Claims 16 and 21 of the reference are directed to the same specie for component reference-C as elected by applicant for claims 1-89 (also indicated as component A of claim 44 of the application), and abbreviated as DNBP. Claims 4 and 14 of the reference are directed to the same specie for component reference-A as elected by applicant for claim 44-89 (also indicated as component B in claim 44 of the application) and abbreviated as 4-oxo-TEMPO. Official notice is taken of the requirement in applicant's claims to the presence of impurities arising from monomer production and/or purification (claims 30-

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43 and 76-89); such are notoriously well known and inevitable, as acknowledged by applicant in the background and the references cited in the background.

5. Claims 16, 17, 59, and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benage, et al. (US 6403850) as applied to claims 2 and 45 above, and further in view of Odian and Quintens, et al. (US 5372924) and Rosenkranz, et al. (US 4053504).

Claims 16 and 59 require the addition of a transition metal, and claims 17 and 60 further limits this to copper. Odian discloses the use of copper chloride as polymerization inhibitor for ethylenically unsaturated monomers (Table 3-9, page 263). Quintens discloses copper naphthenate as polymerization inhibitor for curable compositions containing ethylenically unsaturated components (paragraph bridging columns 6 and 7). Rosenkranz discloses copper naphthenate as polymerization inhibitor for ethylenically unsaturated monomers (paragraph bridging columns 2 and 3). Individually these references establish that it is known to use copper ion (i.e., in salt form) as polymerization inhibitor for ethylenically unsaturated monomers. It would have been obvious to one of ordinary skill in the art at the time of the invention to employ copper (salt or ion) as an additional polymerization inhibitor for ethylenically unsaturated monomers because combining additives for their known function, even in combinations for the same function, is routine.

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11

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F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-3, 5, 6, 9, 15, 30-46, 48, 49, 52, 58, 73, 75-89 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-24 of U.S. Patent No. 6403850 (Benage).

Although the conflicting claims are not identical, they are not patentably distinct from each other because Benage discloses and claims methods of inhibiting polymerization of ethylenically unsaturated monomers by adding thereto components A, B, and optionally C. Claims 16 and 21 of the reference are directed to the same specie for C as elected by applicant for claims 1-89 (also indicated as component A of claim 44 of the application), and abbreviated as DNBP. Claims 4 and 14 of the reference are directed to the same specie for A as elected by applicant for claim 44-89 (also indicated as component B in claim 44 of the application) and abbreviated as 4-oxo-TEMPO.

Official notice is taken of the requirement in applicant's claims to the presence of impurities arising from monomer production and/or purification (claims 30-43 and 76-89); such are notoriously well known and inevitable, as acknowledged by applicant in the background and the references cited in the background.

7. Claims 16, 17, 59, and 60 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-24 of U.S. Patent No. 6403850 (Benage) in view of Odian and Quintens, et al. (US 5372924) and Rosenkranz, et al. (US 4053504).

Claims 16 and 59 require the addition of a transition metal, and claims 17 and 60 further limits this to copper. Odian discloses the use of copper chloride as polymerization inhibitor for ethylenically unsaturated monomers (Table 3-9, page 263). Quintens discloses copper naphthenate as polymerization inhibitor for curable compositions containing ethylenically unsaturated components (paragraph bridging columns 6 and 7). Rosenkranz discloses copper naphthenate as polymerization inhibitor for ethylenically unsaturated monomers (paragraph bridging columns 2 and 3). Individually these references establish that it is known to use copper ion (i.e., in salt form) as polymerization inhibitor for ethylenically unsaturated monomers. It would have been obvious to one of ordinary skill in the art at the time of the invention to employ copper (salt or ion) as an additional polymerization inhibitor for ethylenically unsaturated monomers because combining additives for their known function, even in combinations for the same function, is routine.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 1-3, 5, 6, 9, 15 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Winter, et al. (US 5254760).

See column 4, line 12 for DNBP as polymerization inhibitor for ethylenically unsaturated monomers.

9. Claims 30-43 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Winter, et al. (US 5254760).

The reference discusses the problems of unwanted reactions (polymerization) of monomers in production and purification processes of ethylenically unsaturated monomers. To the extent that this disclosure is not perfectly stating the conditions of the claims, such conditions are considered either inherent or obvious to one of ordinary skill in the art at the time of the invention. Official notice is taken of the requirement in applicant's claims to the presence of impurities arising from monomer production and/or purification; such are notoriously well known and inevitable, as acknowledged by applicant in the background and the references cited in the background.

10. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Winter, et al. (US 5254760) as applied to claim 2 above, and further in view of Odian and Quintens, et al. (US 5372924) and Rosenkranz, et al. (US 4053504).

Claim 16 requires the addition of a transition metal, and claim 17 further limits this to copper. Odian discloses the use of copper chloride as polymerization inhibitor for ethylenically unsaturated monomers (Table 3-9, page 263). Quintens discloses copper naphthenate as polymerization inhibitor for curable compositions containing ethylenically unsaturated components (paragraph bridging columns 6 and 7).

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Rosenkranz discloses copper naphthenate as polymerization inhibitor for ethylenically unsaturated monomers (paragraph bridging columns 2 and 3). Individually these references establish that it is known to use copper ion (i.e., in salt form) as polymerization inhibitor for ethylenically unsaturated monomers. It would have been obvious to one of ordinary skill in the art at the time of the invention to employ copper (salt or ion) as an additional polymerization inhibitor for ethylenically unsaturated monomers because combining additives for their known function, even in combinations for the same function, is routine.

Claim Rejections - 35 USC § 103

11. Claims 44-46, 48, 49, 52, 58, 73, 75-89 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Winter, et al. (US 5254760).

Methods of making the combination of the generic stable nitroxyl compounds disclosed at column 3, lines 3-14 encompass 4-oxo-TEMPO and DNBP (column 4, line 12) are set forth in Winter. It is thought that applicant's elected specie and the specie at line 32 of column 3 are one and the same, and having the Registry Number RN 2896-70-0 HCA. Should this prove not to be the case, the following obviousness rejection is also asserted.

Absent a showing of unexpected results, it would have been obvious to one of ordinary skill in the art at the time of the invention to select any combination of two species, for example 4-oxo-TEMPO and DNBP or TEMPO and DNBP given the broad

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suggestions by the reference. Applicant's claims presented based on a showing of unexpected results must be commensurate in scope to such showing.

With regard to claim 76-89, the reference discusses the problems of unwanted reactions (polymerization) of monomers in production and purification processes of ethylenically unsaturated monomers. To the extent that this disclosure is not perfectly stating the conditions of the claims, such conditions are considered either inherent or obvious to one of ordinary skill in the art at the time of the invention. Official notice is taken of the requirement in applicant's claims to the presence of impurities arising from monomer production and/or purification; such are notoriously well known and inevitable, as acknowledged by applicant in the background and the references cited in the background.

12. Claims 59 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Winter, et al. (US 5254760) as applied to claim 45 above, and further in view of Odian and Quintens, et al. (US 5372924) and Rosenkranz, et al. (US 4053504).

Claim 59 requires the addition of a transition metal, and claim 60 further limits this to copper. Odian discloses the use of copper chloride as polymerization inhibitor for ethylenically unsaturated monomers (Table 3-9, page 263). Quintens discloses copper naphthenate as polymerization inhibitor for curable compositions containing ethylenically unsaturated components (paragraph bridging columns 6 and 7). Rosenkranz discloses copper naphthenate as polymerization inhibitor for ethylenically unsaturated monomers (paragraph bridging columns 2 and 3). Individually these references establish that it is known to use copper ion (i.e., in salt form) as

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polymerization inhibitor for ethylenically unsaturated monomers. It would have been obvious to one of ordinary skill in the art at the time of the invention to employ copper (salt or ion) as an additional polymerization inhibitor for ethylenically unsaturated monomers because combining additives for their known function, even in combinations for the same function, is routine.

Citation of Pertinent Art

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Benage, et al., (6300533) discloses and distinguishes between several species of TEMPO derivatives and their methods of use as to their effectiveness as polymerization inhibitors of ethylenically unsaturated monomers.

Benage, et al., (US 2002/0037958A1) discloses compositions and their methods of use comprising stable hindered nitroxyl compound in combination with selected quinone inhibitors as polymerization inhibitors of ethylenically unsaturated monomers.

Shahid (US 6525146) discloses compositions and their methods of use comprising stable nitroxide compound in combination with selected phenol inhibitors as polymerization inhibitors of diene monomers.

Shahid (US 6284936) discloses compositions and their methods of use comprising stable nitroxide compound in combination with alkyl-dihydroxyarene and a hydrogen transfer agent as polymerization inhibitors of ethylenically unsaturated monomers.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew A. Thexton whose telephone number is 703-305-5085. The examiner can normally be reached on Monday-Friday, 8:30 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasudevan S Jagannathan can be reached on 703-306-2777. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-5665.



Matthew A. Thexton
Primary Examiner
Art Unit 1714

March 14, 2003